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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,862	12/28/2000	Yun Lung Chen	1916	2191

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EXAMINER

PATEL, NIHIR B

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 01/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,862

Applicant(s)

CHEN, YUN LUNG

Examiner

Nihir Patel

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,2,4,7,10,11,13,16, and 19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 1, there is insufficient antecedent basis for limitations “the frame”, “the fins”, and “the plurality of tabs”.

Referring to claim 2, there is insufficient antecedent basis for limitations “the plurality of tabs”.

Referring to claim 4, there is insufficient antecedent basis for limitations “the fins”.

Referring to claim 7, there is insufficient antecedent basis for limitations “the frame”.

Referring to claim 10, there is insufficient antecedent basis for limitations “at least one reinforcing flange”, “at least one casing”, and “the heat sink assembly”.

Referring to claim 11, there is insufficient antecedent basis for limitations “the heat pipe”, “the fan”, “the heat sink”, “the fins”, “the duct”, and “the frame”.

Referring to claim 13, there is insufficient antecedent basis for limitations “the fins”.

Referring to claim 16, there is insufficient antecedent basis for limitations “the frame”.

Referring to claim 19, there is insufficient antecedent basis for limitations “at least one casing” and “the heat sink assembly”

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Lai U.S. Patent No. 5,509,465. Referring to claim 1, the applicant claims that his heat sink assembly comprises of a frame, a plurality of fins spacedly received in the frame, each fin defining at least one through hole and forming a plurality of tabs extending around a periphery of each through hole, and at least one duct inserted through the through hole of the fins and in thermal contact with the plurality of tabs. Lai clearly shows a heat sink assembly that has a frame 7. Lai clearly shows a heat sink assembly that has plurality of fins 5 spacedly received in the frame, each fin defining at least one through hole 50 forming a plurality of tabs extending around a periphery of each through hole 50 and at least one duct 6 inserted through the through hole 50 of the fins 5 and in thermal contact with the plurality of tabs. See figure 3.

Referring to claims 8 and 17, the applicant claims that at least one casing defines a pair of end tabs for abutting outmost fin. Lai clearly shows a heat sink assembly that provides a pair of tabs 72 for abutting outmost fins. See figure 3.

Referring to claim 9 and 18, the applicant claims that at least one latching hole is defined in each casing for interferentially engaging with an end of the corresponding duct. Lai clearly shows at least one latching hole 70 in each casing for interferentially engaging with an end of the corresponding duct. See figure 3.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5,7,12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai U.S. Patent No. 5,509,465.

Referring to claims 3 and 12, Lai discloses applicant's invention as claimed with the exception that the slot is not located in each tapered tab of each fin instead the slots (55 and 56) are located on the fins. See figure 3. As long as the slot(s) receive an end tapered tab of an adjacent fin the location of the slot(s) should not matter therefore the location of the slot(s) (simply a design choice) would not solve any stated problem or produce any new and/or unexpected result.

Referring to claims 4,5,13, and 14 Lai discloses applicant's invention as claimed with the exception that Lai provides one locating portion that extends from each fin for forming intervals between the fins instead of 2 and it is not flanged so that it extends vertically up from the free end. You can have 1 locating portion or 2 locating portions it is simply a matter of design choice, and it will not solve any stated problem or produce any new and/or unexpected result.

Referring to claims 7 and 16, Lai discloses applicant's invention as claimed with the exception that Lai doesn't provide an L-shaped casing to hold the duct and fins together but rather provides a different shape of frame. You can have an L-shaped frame or an O shaped

frame it is simply a matter of design choice, and it will not solve any stated problem or produce any new and/or unexpected results.

Referring to claims 10 and 19, Lai discloses applicant's invention as claimed with the exception that instead of screwing the fan on to the heat sink, Lai provides two retaining hooks 81 that interconnect the holes 80 in the housing of the fan and the ends of the rod members 6. You can either screw the fan on to the heat sink or hook it, it is simply a matter of design choice, and it will not solve any stated problem or produce any new and/or unexpected results.

Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai U.S. Patent No. 5,509,465 in view of Tanahashi et al. U.S. Patent No. 6,189,602.

Lai discloses applicant's invention as claimed with the exception that Lai doesn't mention the type of metal used to make duct.

Tanahashi discloses an electronic device with improved heat dissipation that clearly states that the heat pipe (duct) 38 and the heat receptacle plate 37 may be made of a highly heat-conductive metal such as copper and aluminum. Refer to figures 3 and 4 and column 3 lines 55-60.

Claims 11,17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lai U.S. Patent No. 5,509,465 in view of Nelson U.S. Patent No. 5,339,214.

Lai discloses applicant's invention as claimed with the exception that Lai does not provide a heat pipe that is attached to a heat-generating electronic device on one end and to a heat sink on the other end.

Nelson discloses a multiple-fan microprocessor cooling through a finned heat pipe that does provide a pipe (duct) 38 that is attached to a heat-generating device 40 on one end and to a heat sink 34 on the other end.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

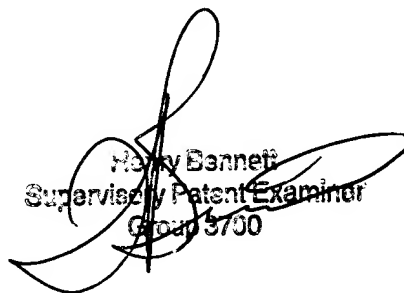
The following patents are cited to further show the state of the art with respect to a heat sink assembly.

U.S. Patent No. 3,741,291 to Limoni

U.S. Patent No. 1,805,116 to R.N. Trane

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose number is (703) 306-3463. The examiner can normally be reached on Monday-Friday 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor Henry Bennett can be reached at (703) 308-0101.

NP
January 9, 2002


Henry Bennett
Supervisory Patent Examiner
Group 3700

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a)

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.